

Response to Amendment

1. In response the applicant's amendment filed on 3/20/2008, claims 1-10 are cancelled, and claims 11 and 19 are amended. Thus, claims 11-26 are pending in this application. In response to the applicant's argument, see pages 7-10, filed on 3/20/2008, with respect to the amended claims 11-19 have been fully considered and are not persuasive. The amendment necessitated a new ground(s) of rejection presented in this Final Office action.

Terminal Disclaimer

2. The terminal disclaimer filed on 3/20/2008 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of U.S. No. 6,950,082 and U.S. application No. 10/707646 has been reviewed and is accepted. The terminal disclaimer has been recorded.

The terminal disclaimer overcomes **Shieh** et al. (US 5,748,160) and **Sung** et al. (U.S. 6,950,082) references.

Drawings

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, "the plurality of second active devices is electrically connected in parallel to the single first active device" must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet,

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even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 11-26 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

As per claims above, the applicant introduces new subject matter does not read in light of the specification, paragraph [0023], into the claim 1, such that claimed feature “the second active device are (sic) electrically connected in parallel to the single first active device” as

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recited in independent claim 11, lines 2-4 of page 3; and claimed feature “a plurality of second active devices electrically is connected in parallel to the single first active device” recited in claim 19, lines 27-28. The original disclosure does not support the new subject matter as indicated above.

Applicant is required to cancel the new matter in the reply to this Final Office Action.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 11-26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As per claims above, the claimed feature “the second active device are (sic) electrically connected in parallel to the single first active device” as recited in independent claim 11, lines 2-4 of page 3; and the claimed feature “a plurality of second active devices electrically is connected in parallel to the single first active device” recited in claim 19, lines 27-28, which render the claim indefinite. How is the plurality of second active devices electrically connected in parallel to the single first active device?

For the purpose of the rejections below, the new subject matter is supposed to be removed.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are

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such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 11-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Shieh** et al. (U.S. 5,748,160, hereinafter **Shieh**) in view of **Friend** et al. (U.S. 6,429,601, hereinafter **Friend**).

10. As to claim 11, **Shieh** teaches an active matrix display device (Fig. 3) comprising:

a plurality of pixels having a plurality of scanning lines, a plurality of data lines (a plurality of row lines and a plurality of column lines, col. 4, lines 14-16);

a plurality of pixels (pixels, col. 4, line 15), each of the pixels (40) electrically connected to one corresponding scanning line and one corresponding data lines (col. 4, lines 9-16), each of the pixels comprising:

a storage capacitor (23, *fig. 1 is equivalent to fig. 3*);

a single first active device (50) having a first end (54) electrically connected to the corresponding scanning line (the row line), a second end (53) electrically connected to the corresponding data line (the data line), and a third end (51);

a plurality of active-type light emitting devices (45, 46, 47) electrically connected in parallel with each other (45, 46, 47), each of the active-type light emitting devices (45) being connected between a source of first potential (ground) and a source of second potential (60), each of the active-type light emitting devices (45) respectively comprising:

a light emitting device (45) electrically connected to the source of second potential (ground); and

a second active device (43) having a fourth end (52) electrically connected to the third end (51), a fifth end (48) electrically connected to the source of first potential (ground), and a

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sixth end (44) electrically connected to the light emitting device (45), wherein the single first active device (50) switched each of the active-types light emitting device (45, 46, 47); and

a storage capacitor (23) having a first electrode electrically connected to the third end (51) of the single first active device (50) and the fourth end of the active-type light emitting devices (45, 46, 47), and second electrode electrically connected to the source of the first potential end (ground, col. 4, line 66 through col. 5-29).

Shieh fails to teach a plurality of thin film transistors connected in parallel to a plurality of light emitting devices.

Friend teaches a plurality of thin film transistors (15a-d) coupling in parallel to a plurality of light emitting devices (19a-d), each of the plurality of thin film transistors (15a-d) being connected between a source of first potential (a common line or ground) and a source of second potential (a common cathode 20), see figure 5, column 5, lines 34- 48.

Col. 4, lines 29-33 of Shieh discloses while transistors 43 are illustrated as n-type devices, it would have been understood by those skilled in the art that diodes 45, 46, and 47 could be reversed and p-type devices could be used, if desired to substitute with Friend's thin film transistors (15a-d), because Friend teaches the switching transistors 15a-d corresponding to a transistor 9 in figure 1, see col. 5, lines 47-48 of Friend. Thus, it would have been obvious to a person of ordinary skill in the art to apply Friend to Shieh to achieve the predictable result. Using the known technique of Friend would have been obvious to one of ordinary skill.

As to claim 12, Shieh teaches the pixel structure of claim 1, wherein the single first active device (50) is a first thin film transistor, and the first end is a gate electrode (54) of the first thin

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film transistor, the second end is a drain electrode (51) of the first thin film transistor, and the third end is a source electrode (53) of the first thin film transistor (*50, fig. 3, col. 4, lines 29-33*).

As to claim 13, Shieh teaches the pixel structure of claim 1, wherein the storage capacitor (23) is electrically connected between the third end (51) of the single first active device (50) and the source of first potential (*ground, fig. 3*).

As to claim 14, Shieh teaches the pixel structure of claim 3, wherein the source of first potential is utilized for supplying a constant potential [*it is noted a voltage source 60 is a constant DC voltage source*].

As to claim 15, Shieh teaches the pixel structure of claim 1, wherein each of the active-type light emitting devices (45) comprises:

a second active device (43) having a fourth end (52) electrically connected to the third end (51) of the single first active device (50), a fifth end (48) connected to the source of first potential (ground), and a sixth end (44), wherein the fourth end (52) is the switching end (*a gate of the transistor 43 is switching on and off*); and

a light emitting device (45) having a seventh end connected to the sixth end and an eighth end connected to the source of second potential (*60, see Fig. 3*).

As to claim 16, Shieh teaches the pixel structure of claim 5, wherein when an electrical shortage occurs in one of the active-type light emitting devices (45, 46, 47), the pixel structure displays an image via the other active-type light emitting devices (*columns 5-6 and Figures 3-5 of Shieh reference clearly show the active matrix display structure with scan lines (the gate line) and data lines (the data line). It is inherent in any active matrix display that other pixel will work when one pixel goes bad or become defective*).

As to claim 17, Shieh teaches the pixel structure of claim 5, wherein each of the second active devices (43) comprises a second thin film transistor (col. 4, lines 29-33).

As to claim 18, Shieh teaches the pixel structure of claim 7, wherein the fourth end is a gate electrode (52) of the second thin film transistor (43), the fifth end is a source electrode (44) of the second thin film transistor (43), and the sixth end is a drain electrode (48) of the second thin film transistor (43).

As to claim 19, Shieh teaches the pixel structure of claim 5, wherein each of the light emitting devices comprises an organic light emitting diode (OLED) (*col. 4, lines 34-36*).

As to claim 20, Shieh teaches the pixel structure of claim 9, wherein the seventh end is an anode of the light emitting device, and the eighth end serves as a cathode of the light emitting device (*at least a OLED (45) has an anode and a cathode, col. 4, lines 20-22*).

The limitation of claim 20 is the same as those of claim 12 and therefore the claim will be rejected using the same rationale.

The limitation of claim 21 is the same as those of claim 13 and therefore the claim will be rejected using the same rationale.

The limitation of claim 22 is the same as those of claim 14 and therefore the claim will be rejected using the same rationale.

The limitation of claim 23 is the same as those of claim 15 and therefore the claim will be rejected using the same rationale.

The limitation of claim 24 is the same as those of claim 16 and therefore the claim will be rejected using the same rationale.

The limitation of claim 25 is the same as those of claim 17 and therefore the claim will be rejected using the same rationale.

The limitation of claim 26 is the same as those of claim 18 and therefore the claim will be rejected using the same rationale.

11. As to **claim 19**, **Shieh** teaches an active matrix organic light-emitting display device comprising:

a plurality of scanning lines, a plurality of data lines (see col. 4, lines 51-65);

a plurality of pixels, each of the pixels electrically connected to one corresponding scanning line and one corresponding data line, (see col. 4, lines 8-17), each of the pixel comprising:

a single first active device (50) having a first end (54) electrically connected to the corresponding scanning line (57), a second end (53) electrically connected to the corresponding data line (55), and a third end (51);

a plurality of light emitting devices, each of the light emitting devices being electrically connected to a source of second potential in parallel (OLEDs 45, 46, 47, fig. 3);

a second active device, wherein the second active device has a fourth end electrically connected to the first end, a fifth end electrically connected to a source of first potential, and a sixth end electrically connected to one of light emitting devices (a thin film transistor 43); and

a storage capacitor (23, fig. 1 is equivalent to fig. 3) having a first electrode electrically connected to the third end (51) of the single first active device (50) and fourth end of each second active device, and a second electrodes electrically connected to the source of first potential end (the ground).

Shieh fails to teach a plurality of thin film transistors connected in parallel to a plurality of light emitting devices.

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Col. 4, lines 29-33 of Shieh discloses while transistors 43 are illustrated as n-type devices, it would have been understood by those skilled in the art that diodes 45, 46, and 47 could be reversed and p-type devices could be used, if desired to substitute with Friend's thin film transistors (15a-d), because Friend teaches the switching transistors 15a-d corresponding to a transistor 9 in figure 1, see col. 5, lines 47-48 of Friend. Thus, it would have been obvious to a person of ordinary skill in the art to apply Friend to Shieh to achieve the predictable result. Using the known technique of Friend would have been obvious to one of ordinary skill.

Response to Arguments

12. Applicant's arguments with respect to the amended claims 11 and 19 have been considered but are moot in view of the new grounds of rejection.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Applicant argues with respect to claims 13 and 21 recited "a first potential is a constant potential." These are not found to be persuasive. Shieh teaches a ground voltage is a constant

voltage, see figure 3. It is noted that the constant voltage as described in the specification by the applicant, which is not workable for the plurality of pixels or an image being displayed. For example, when the constant voltage without grayscale voltage applies to the OLED pixels, the entire image alternately is displayed only black or only white on the screen.

Applicant argues with respect to claims 15 and 23 recited “the second active device comprises a second TFT or a CMOS.” These are not found to be persuasive. Shieh teaches transistor 43 is as n-type device is a CMOS, see col. 4, lines 29-30.

Applicant argues that claims 12-18 and 20-26 respectively depend on the amended claims 11 and 19 are found allowable. These are not found to be persuasive. The amended independent claims 11 and 19 are moot in view of the new grounds of rejection. Thus, the dependent claims 12-18 and 20-26 are also maintained.

For these reasons, the rejections of claims 11-26 under prior art of record are maintained.

Conclusion

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nguyen M. Kevin whose telephone number is 571-272-7697. The examiner can normally be reached on MON-THU from 9:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin H. Shalwala can be reached on 571-272-7681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kevin M Nguyen/
Primary Examiner, Art Unit 2629